PRC Environmental Management, Inc.
33 North Michigan Avenue
Suite 1621
Chicago, IL 60601
312-856-8700
Fax 312-938-0118

FOCUSED SITE INSPECTION PRIORITIZATION
SITE EVALUATION REPORT

MARBLE CLIFF QUARRIES DUMP
3101 TRABUE ROAD
COLUMBUS, OHIO

OHD 980 510 226

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Site Assessment Section
77 West Jackson Boulevard
Chicago, IL 60604

Date Prepared	:	September 13, 1994
EPA Region	:	5
Contract No.	:	68-W8-0084
Work Assignment No.	:	29-5JZZ
PRC Project No.	:	030-003526
Prepared by	:	PRC Environmental Management, Inc. (John Grabs)
PRC Project Manager	:	Julie Kaiser
Telephone No.	:	(703) 556-2585
EPA Work Assignment Manager	:	Jeanne Griffin
Telephone No.	:	(312) 886-3007

US EPA RECORDS CENTER REGION 5
456348

contains recycled fiber and is recyclable

CONTENTS

1.0 INTRODUCTION

Under Contract No. 68-W8-0084, Work Assignment No. 35-5JZZ, PRC Environmental Management, Inc. (PRC), has evaluated the Marble Cliff Quarries Dump (MCQD) site in Columbus, Franklin County, Ohio, as a potential candidate for the National Priorities List (NPL) and has prepared this focused site inspection prioritization (FSIP) report. Using the Hazard Ranking System (HRS), PRC performed FSIP activities for the site to determine if, or to what extent, it poses a threat to human health and the environment. This report presents the results of PRC's evaluation and summarizes the site conditions and targets pertinent to the migration and exposure pathways associated the MCQD site. Information was obtained from a screening site inspection (SSI) report prepared by U.S. Environmental Protection Agency (EPA) contractor, Ecology and Environment, Inc. (E&E); a site reconnaissance; EPA Region 5 files; Ohio Environmental Protection Agency (OEPA) files; Ohio Department of Natural Resources (ODNR) files; and the City of Columbus, Ohio, files. Also, on July 28, 1994, PRC conducted a site reconnaissance to gather additional information. During the inspection, PRC interviewed Mr. John Atkinson, the quarry superintendent, and photographed various site features.

This report has six sections, including this introductory section. Section 2.0 describes the site. Section 3.0 discusses site operations and history. Section 4.0 discusses previous investigations of the site. Section 5.0 provides information about the four migration pathways (groundwater migration, surface water migration, soil exposure, and air migration) that can be scored. Section 6.0 summarizes conditions at the site.

2.0 SITE DESCRIPTION

The MCQD site is an inactive landfill located about 4,000 feet north of Trabue Road at 3101 Trabue Road, Columbus, Norwich Township, Franklin County, Ohio (40° 00' 20" N latitude, 83° 05' 18" W longitude). The MCQD landfill covers about 1.5 acres and began operations in 1950. The site is part of a property currently owned by Specialty Restaurant Corporation (SRC) of Anaheim, California, and is leased to American Aggregates Corporation (American) of Xenia, Ohio. The landfill boundaries were delineated during a June 12, 1990, E&E SSI sampling event by American employees who worked at the landfill when it was active. However, because the

boundaries delineated encompass an area of about 40 acres, the boundaries may be incorrect. The site's approximate location is shown in Figure 1.

The MCQD site is bordered on the north and northwest by an active quarry operated by American, on the west by Dublin Road, on the south by the inactive Marble Cliff Quarries sanitary landfill, and on the east and northeast by a steep bank leading down to the Scioto River. In addition, south of Trabue Road and southeast of the Marble Cliff Quarries sanitary landfill is another landfill, the Earthco Demolition Dump (Earthco). The approximate locations of the active quarry, the MCQD site, the sanitary landfill, and the Earthco landfill are shown in Figure 2.

The area around the MCQD site is used for a variety of purposes. Industrial areas exist northwest of the site, and rural areas exist southwest of the site. In addition, residential areas exist east of the site and across the Scioto River. In general, with the exception of the Scioto River to the east, the site is surrounded by active or reclaimed quarrying operations.

The topography of the site is relatively flat with the exception of an east-to-west manmade escarpment and numerous small mounds. The site layout is shown in Figure 3. The escarpment separates the northern portion of the site from the southern portion and represents an elevation change of about 40 feet. The small mounds are piles of flume sand from quarrying operations. Flume sand is fine-grained material recovered from settling ponds. Flume sand and flume ponds are also present in other areas on and around the site. The eastern portion of site slopes steeply about 70 feet down to the Scioto River. Although the site boundaries extend to the Scioto River, the landfill portion of the site is located about 500 feet west of the river. The site is above the 100-year flood plain (Federal Emergency Management Agency 1987). The site is well vegetated with grass, brush, and trees (see Photograph No. 5, Appendix). Some areas, however, are less vegetated than others because of flume sand deposits.

South of the escarpment in the western portion of the site is an area of exposed waste (see Photographs No. 1 through 4). The exposed waste consists of rusted, partial drums and solid waste that covers an area of less than 0.5 acre. Most of the drums were in poor condition and were empty. Several drums contained unknown solid material (Photograph No. 3). The exposed solid waste

ATTACHMENT

RESIDENTIAL WELL LOGS

MARBLE CLIFF QUARRIES DUMP
COLUMBUS, OHIO

(20 Sheets)

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

1

No 153936

County Franklin Township Franklin Section of Township or Lot Number

Owner Anderson Haulage Address 3040 McKinley Ave. Cols. O.

Drilled For: Service Products Building, Inc. 3494 East Seventh Ave. Cols. 19, O BE.1271

Location of property Same - Marble Cliff Quarry That Has Been Filled Up To McKinley Ave. Level

CONSTRUCTION DETAILS

Casing diameter 8" Length of casing 73'

Type of screen None Length of screen None

Type of pump 7½ H.P. Reda Subermigble

Capacity of pump 150 G.P.M. 140' Head

Depth of pump setting 200'

PUMPING TEST

Pumping rate 150 G.P.M. Duration of test 24 hrs.

Drawdown 20' ft. Date 4 June 1957

Developed capacity Unknown

Static level—depth to water 70 ft

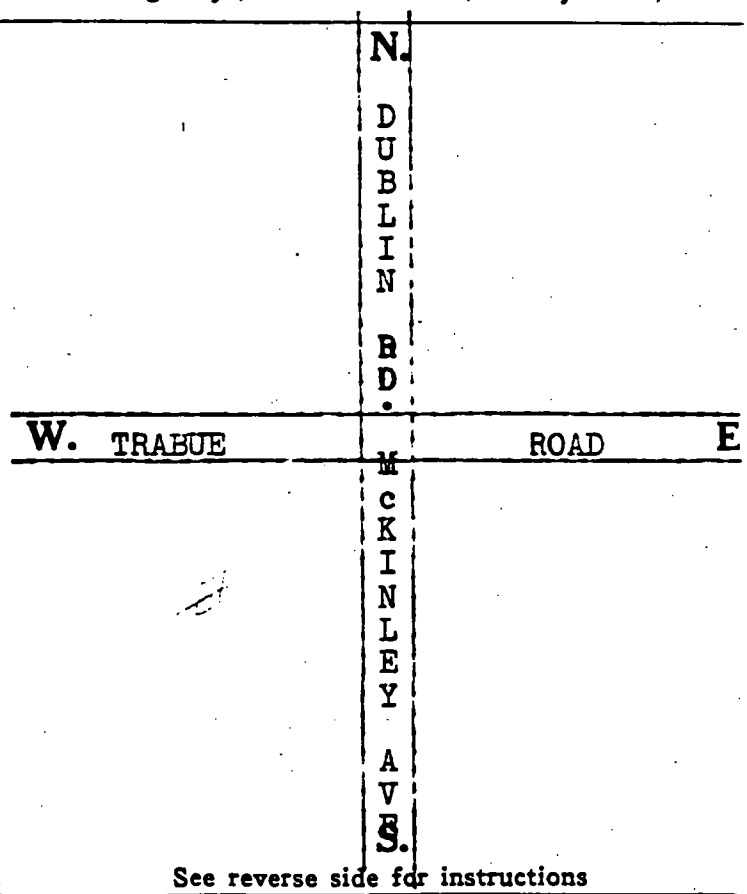
Pump installed by Sells-Suburban Well & Water Supply Dublin, Ohio

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Fill Dirt & Rocks	0 Feet	71 Ft.
Limestone	71	217

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Sells-Suburban Well & Water Su Date 10 June 1957

Address Dublin, O. TU 98312 Signed Robert L. Sells

NO CARBON PAPER NECESSARY— SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

No. 398312

2

County Franklin Township Franklin Section of Township

Owner Gallie Bros. Address 586 Lotan St

Location of property 2880 McKinley ave

CONSTRUCTION DETAILS

Casing diameter 4½" Length of casing 72'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST
(Specify one by circling)

Test Rate 8 G.P.M. Duration of test hrs.

Drawdown none ft. Date

Static level-depth to water 83 ft.

Quality (clear, cloudy, taste, odor)

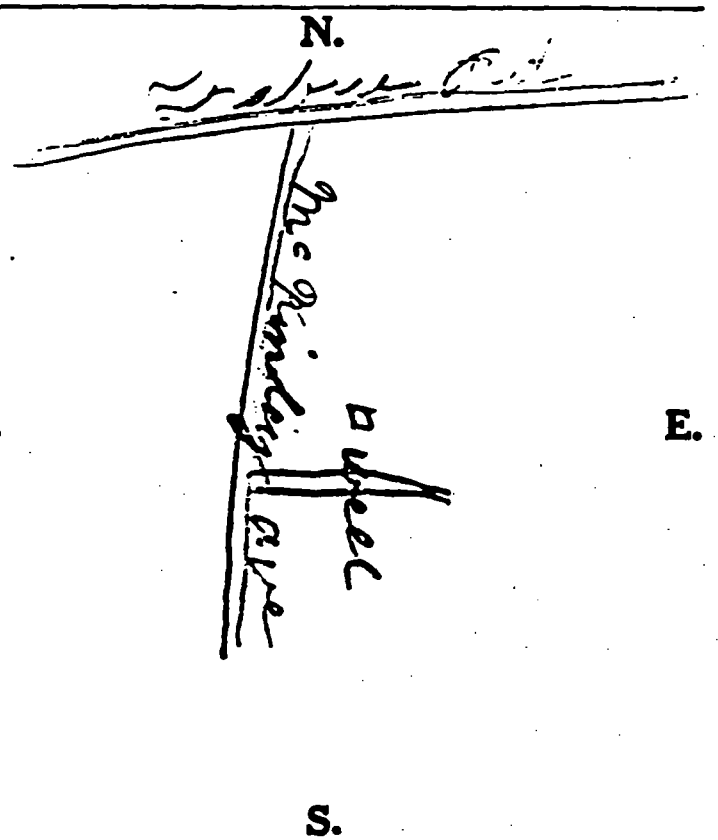
Pump installed by

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	2 Ft.
Broken stone	2	8
Clay	8	20
Limestone	20	22
Clay	22	45
Broken stone	45	48
Clay	48	65
Broken stone	65	71
solid Limestone	71	101

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



Drilling Firm Sam Plummer Sons Date Oct 7 1970

Address Route 1 Dublin Ohio Signed Bill Plummer

*If additional space is needed to complete well log, use next consecutive numbered form.

NO CARBON PAPER NECESSARY— SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

No. 384282

3

County FRANKLIN Township NORWICH Section of Township

Owner JULIA F. TYNAN Address 5119 E. BROAD ST. COL. O.

Location of property DUBLIN RD.

CONSTRUCTION DETAILS

Casing diameter 5½" O.D. Length of casing 17 ± FT

Type of screen NONE Length of screen

Type of pump 1 H.P. WESTRAL SUB.

Capacity of pump 12 G.P.M.

Depth of pump setting 150 FT

Date of completion 4/1/69

BAILING OR PUMPING TEST
(Specify one by circling)

Test Rate 10 G.P.M. Duration of test 6 hrs.

Drawdown 10' ft. Date 4/1/69

Static level-depth to water 83 ft.

Quality (clear, cloudy, taste, odor)

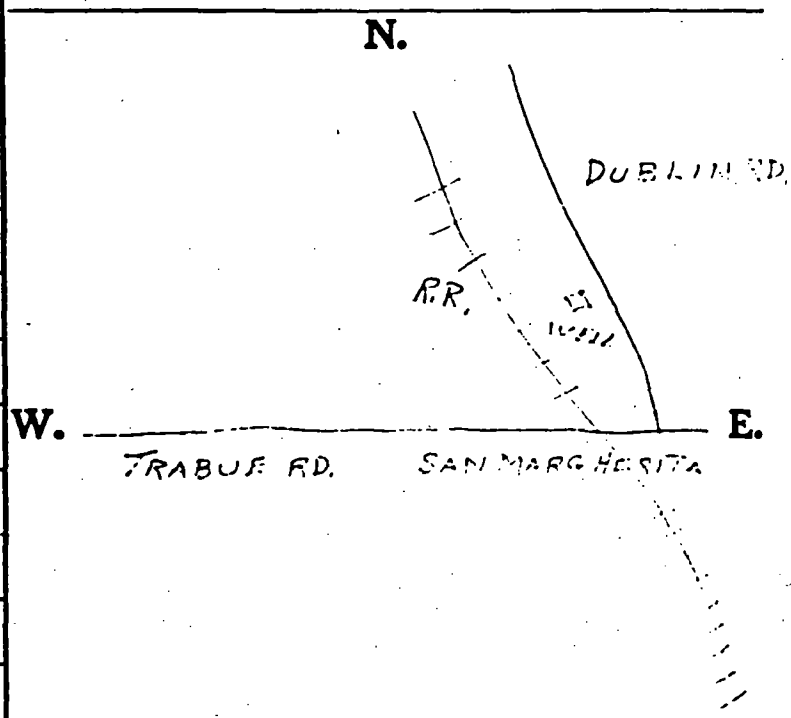
Pump installed by RAY VOLLMUTH CO.

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
CLAY	0 Feet	2 Ft.
LIMESTONE	2	240
WATER		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



Drilling Firm RAY VOLLMUTH CO. Date 4/10/69

Address R#3 PATASKALA O Signed

*If additional space is needed to complete well log, use next consecutive numbered form.

PLEASE USE PENCIL OR TYPEWRITER
DO NOT USE INK

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus 12, Ohio

No 314338

County Franklin Township Franklin Section of Township

Owner Robert T Farley Address 1991 W Granville Rd

Location of property 9840 Fisher Rd Worthington

CONSTRUCTION DETAILS

Casing diameter 4 1/4" Length of casing 37'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping Rate G.P.M. Duration of test hrs.

Drawdown ~~zero ft.~~ Date (25 11

Static level-depth to water 67 ft 9 inch ft.

Quality (clear, cloudy, taste, odor)

Gushing test 12 gallons

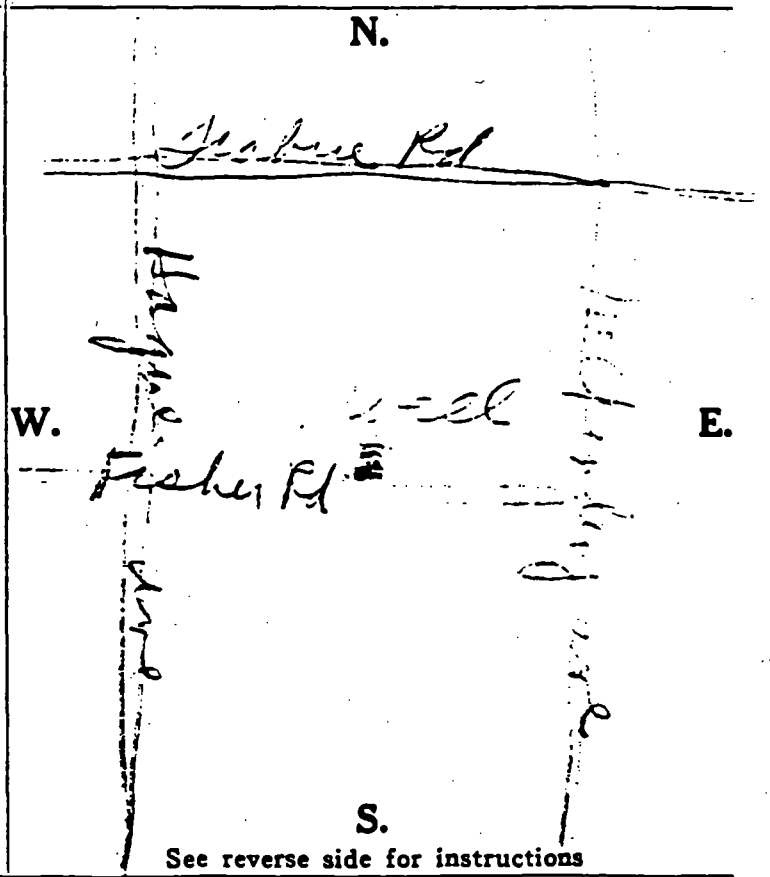
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
	0 Feet	Ft.
Clay	0	24
Stone	24	92

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Sam Plumbing & Sons Date Nov 5-65

Address Dublin Ohio Rt 1 Signed Sam Plumbing

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

5

No. 194881

County Franklin Township Franklin Section of Township

Owner George Jennings Construction Co. Address 750 West Lane Ave Columbus

Location of property Patton Warehouse Harrisman Ave. Col. O. Harrison Ave

CONSTRUCTION DETAILS

Casing diameter 4"/4" Length of casing 35'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping rate G.P.M. Duration of test hrs.

Drawdown None ft. Date

Developed capacity

Static level—depth to water 48 ft water ft.

Pump installed by

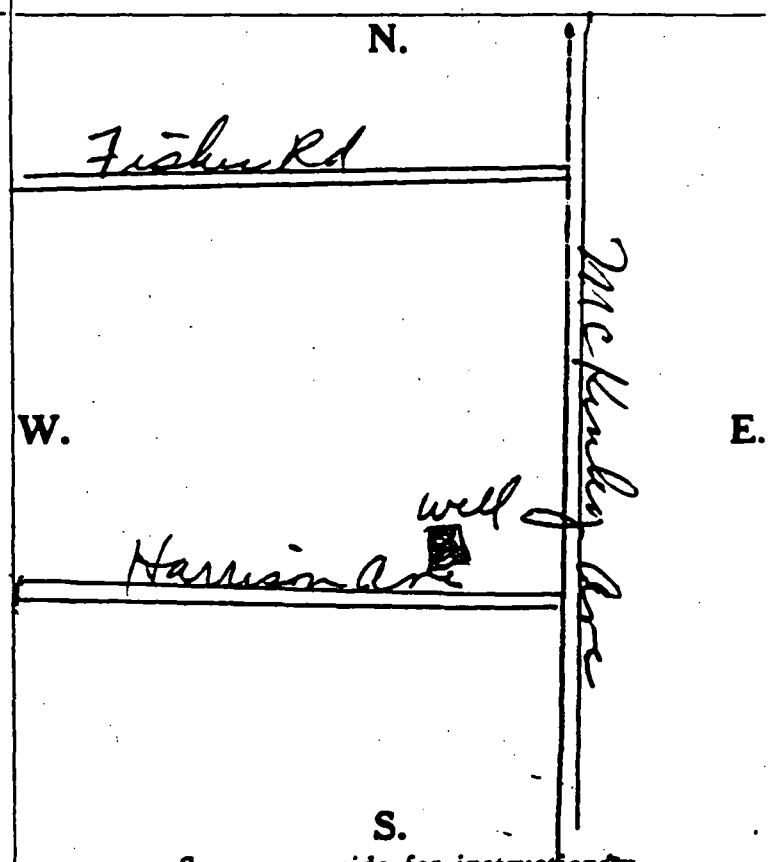
Bailing test 12 gal per min

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From 0 Feet	To Ft.
Clay	0	5
Yellow Stone	5	33
Gray Limestone	33	65
Red Limestone	65	104

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Sam Plummer & Son Date Feb 26th 1958

Address Dublin O. R 1 Signed Sam Plummer

NO CARBON PAPER NECESSARY – SELF-TRANSCRIBING

DEPARTMENT OF NATURAL RESOURCES
Division of Geological Survey
Fountain Square
Columbus, Ohio 43224 Phone (614) 466-5344

412031

6

COUNTY Franklin TOWNSHIP Cole SECTION OF TOWNSHIP OR LOT NUMBER

OWNER Andy Miller ADDRESS 2200 McKinley Ave

LOCATION OF PROPERTY McKinley – Harrison Ave.

CONSTRUCTION DETAILS

Casing diameter 4½ Length of casing 67

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 10 gpm Duration of test 1½ hrs

Drawdown 8 ft Date Oct 21-1974

Static level (depth to water) 38 ft

Quality (clear, cloudy, taste, odor) Cloudy

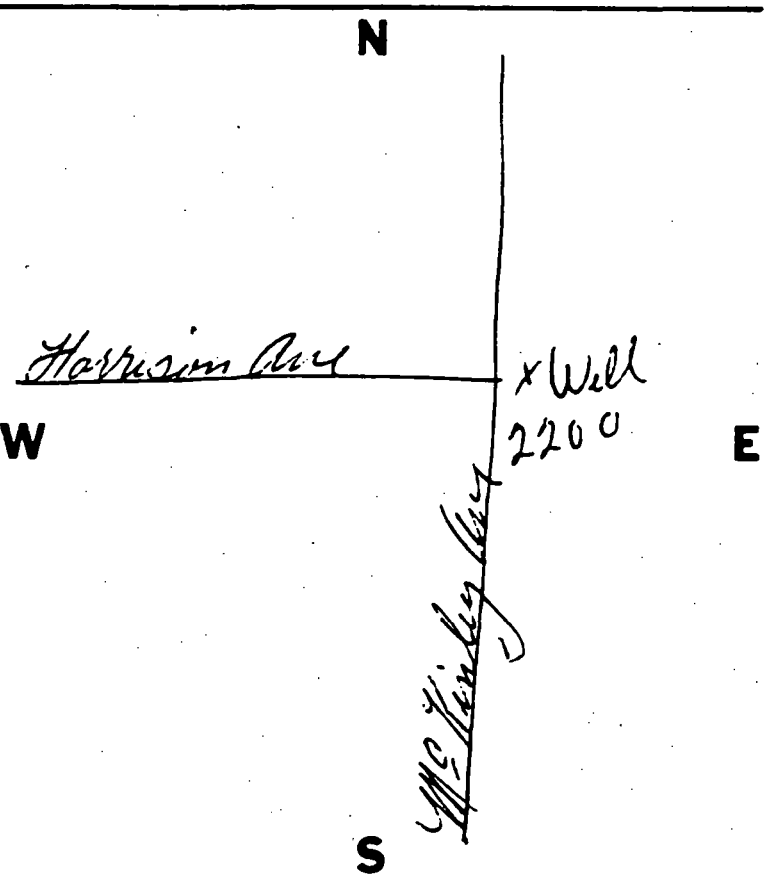
Pump installed by

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Dry Gravel	0 ft	17 ft
Sand	17	20
Rock	20	58
Red Clay	58	61
Solid Rock	61	157

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Merle Wright ADDRESS Smith Rd Grand Ohio DATE Oct 21-1974 SIGNED Joseph Eccles

*If additional space is needed to complete well log, use next consecutive numbered form.

NO CARBON PAPER NECESSARY - SELF-TRANSCRIBING

DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

639348

7

COUNTY Franklin TOWNSHIP Columbus SECTION OF TOWNSHIP

OWNER Alaskan Insulation, Inc ADDRESS 2179 McKinley Ave

LOCATION OF PROPERTY 2179 McKinley Ave., Cols., Ohio

CONSTRUCTION DETAILS

Casing diameter 5" Length of casing 90'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 210 gpm Duration of test one hrs

Drawdown ft Date 8-23-83

Static level (depth to water) 43' ft

Quality (clear, cloudy, taste, odor)

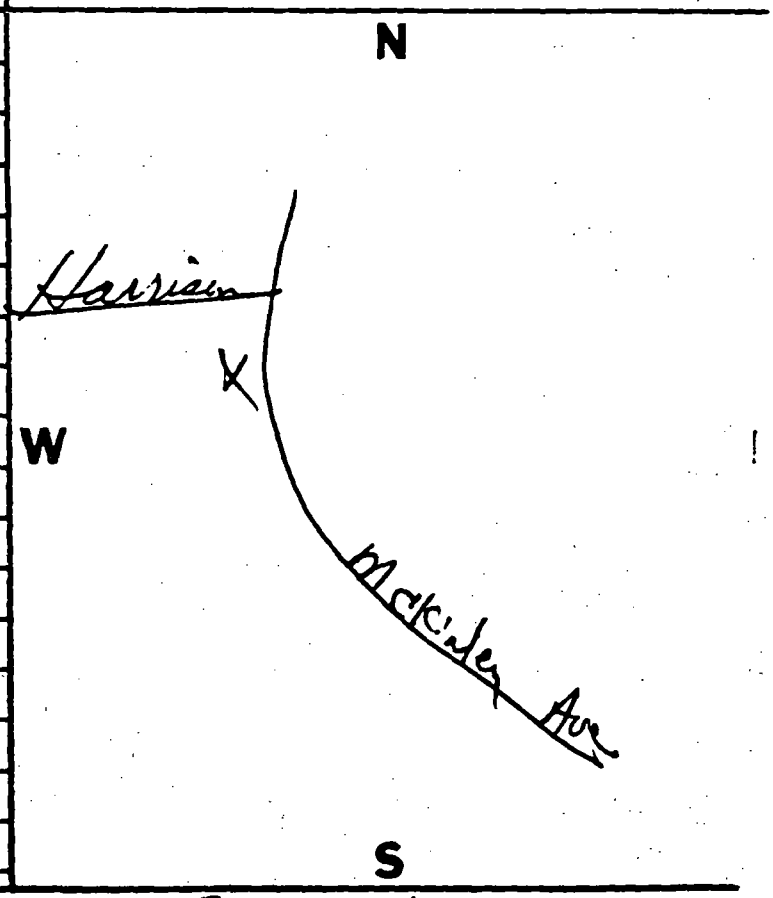
Pump installed by

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Clay	0 ft	13 ft
Limestone w/clay	13	120
Cavern	120	128
Limestone	128	140

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM R. C. Barry Co. DATE August 23, 1983

ADDRESS Galloway, Ohio SIGNED Everett Keener

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

NO CARBON PAPER NECESSARY - SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

637934

COUNTY Franklin TOWNSHIP Franklin SECTION OF TOWNSHIP

OWNER John Baljak ADDRESS 3459 Trabue Rd

LOCATION OF PROPERTY Trabue Rd

CONSTRUCTION DETAILS

Casing diameter 4 1/4" Length of casing 106'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 8 gpm Duration of test hr

Drawdown none ft Date

Static level (depth to water) 42 ft

Quality (clear, cloudy, taste, odor)

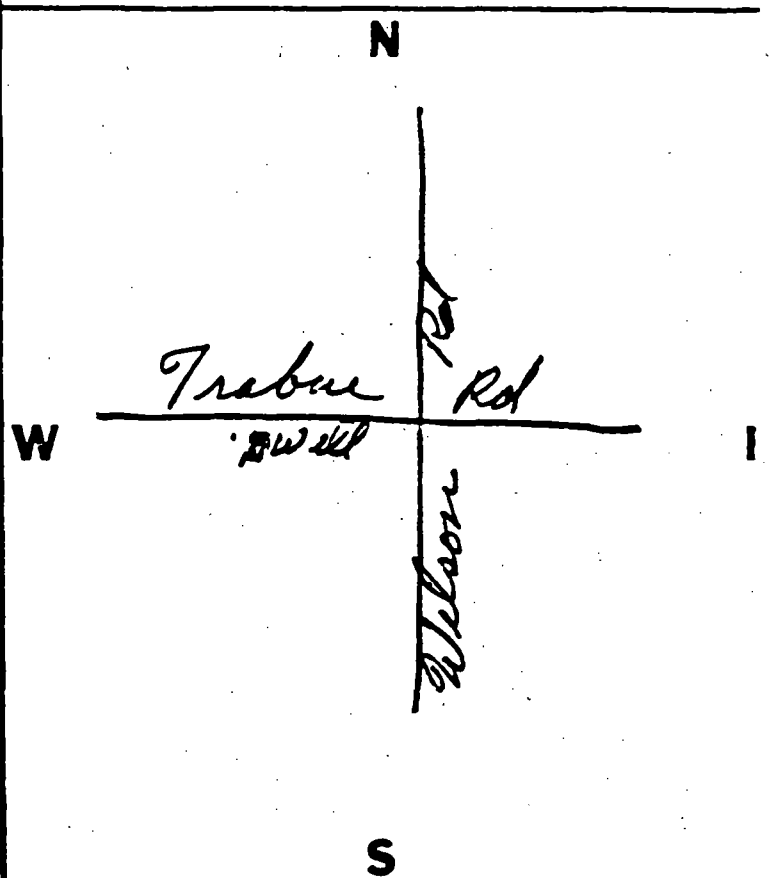
Pump installed by

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Clay	0 ft	10 ft
Bankrun Gravel	10	28
Clay	28	102
Limestone	102	107

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Sam Plummer & Sons DATE 15 Sept 83

ADDRESS Route 4 Dublin Ohio SIGNED Eddie Plummer

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

9

No 141710

County Franklin Township Franklin Section of Township or Lot Number

Owner C. J. Detamore Address 1515 Highland Ave. Columbus, Ohio

Location of property 4699 Trabue Rd.

CONSTRUCTION DETAILS

Casing diameter 4 1/4" Length of casing 79 ft.

Type of screen None Length of screen

Type of pump

Capacity of pump

Depth of pump setting

PUMPING TEST

Pumping rate G.P.M. Duration of test hrs

Drawdown None ft. Date

Developed capacity

Static level—depth to water 40 ft

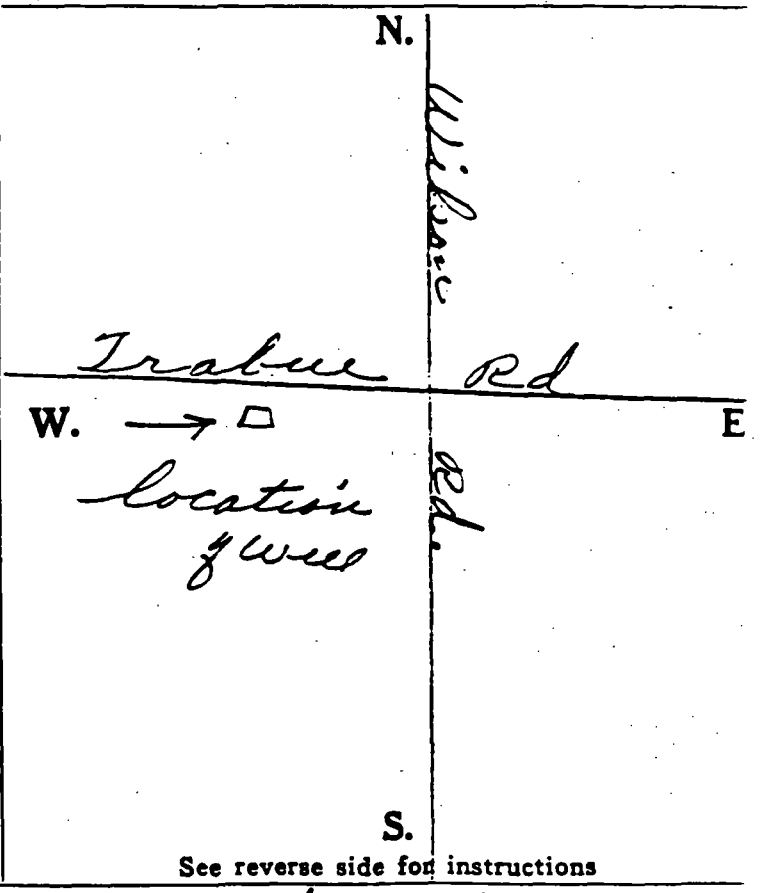
Pump installed by Tested By Bailey

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
clay	0 Feet	27 Ft.
Gravel	27	35
Clay	35	40
Gravel	40	60
Clay	60	78
Limestone	78	86

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Plummer Bros Date Oct. 26/54

Address Dublin Ohio Signed N. L. Plummer

NECESSARY—
SELF-TRANSCRIBING

DEPARTMENT OF NATURAL RESOURCES
Division of Water
65 S. Front St., Rm. 815 Phone (614) 469-2646
Columbus, Ohio 43215

429035

10

County Franklin Township Norwich Section of Township

Owner Russell Seely Address 3265 Walcutt Rd

Location of property 7 Northeast of RT40 on Walcutt Rd

CONSTRUCTION DETAILS

Casing diameter 4½ Length of casing 56ft

Type of screen Length of screen

Type of pump

Capacity of pump 1 HP

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST
(Specify one by circling)

Test Rate 10 G.P.M. Duration of test 2 hrs

Drawdown None ft. Date 4-26-72

Static level-depth to water 7.5 ft.

Quality (clear, cloudy, taste, odor) Clear

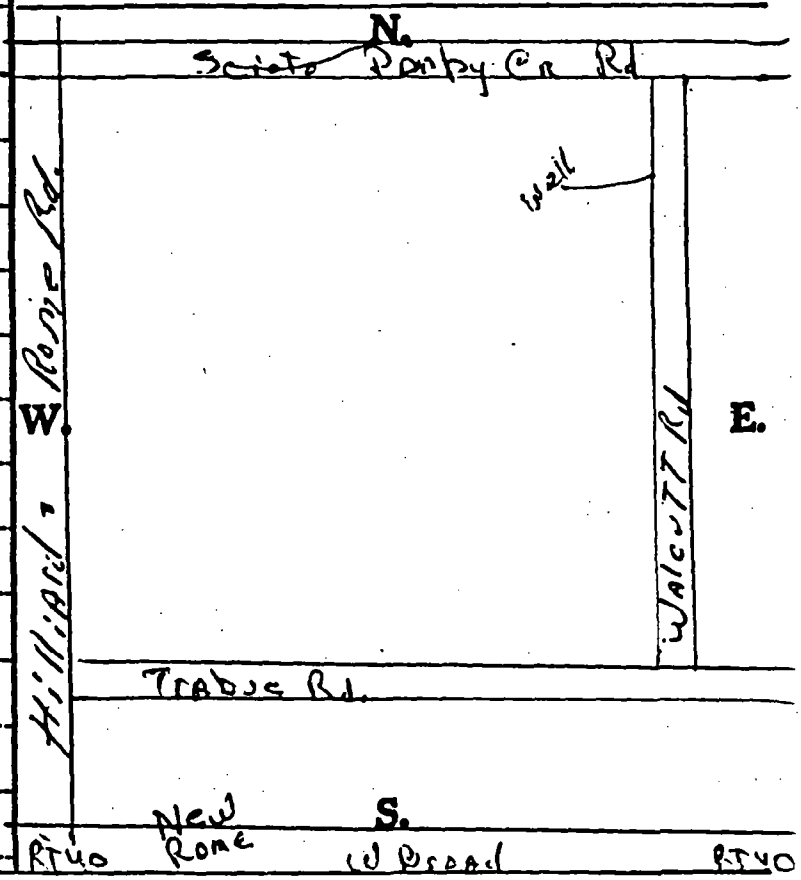
Pump installed by

WELL LOG*

Formations Sandstone, shale, limestone, gravel and clay	From	To
Blue Clay	0 Feet	45 Ft.
Sand	45	49
Yellow Clay	49	55
Pourred Rock	55	56
Limestone	56	138
Well AT 138		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



Drilling Firm C A. Underhill Date 4-27-72

Address 1182 Hubbard Road Signed Charles A Underhill Sr.
Gallaway Ohio 43119

*If additional space is needed to complete well log, use next consecutive numbered form.

NO CARBON PAPER NECESSARY- SELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

11

Permit Number 63

COUNTY Franklin TOWNSHIP Norwich Hilliard SECTION OF TOWNSHIP

OWNER Keepers Landscape ADDRESS 3872 Scioto Darby Cr. Rd.

LOCATION OF PROPERTY Lane

CONSTRUCTION DETAILS

Casing diameter 6" Length of casing 77'

Type of screen Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

Rotary ☐ or Cable ☐

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 60+ gpm Duration of test 1 hrs

Drawdown ft Date 4-25-86

Static level (depth to water) 25 ft

Quality (clear, cloudy, taste, odor)

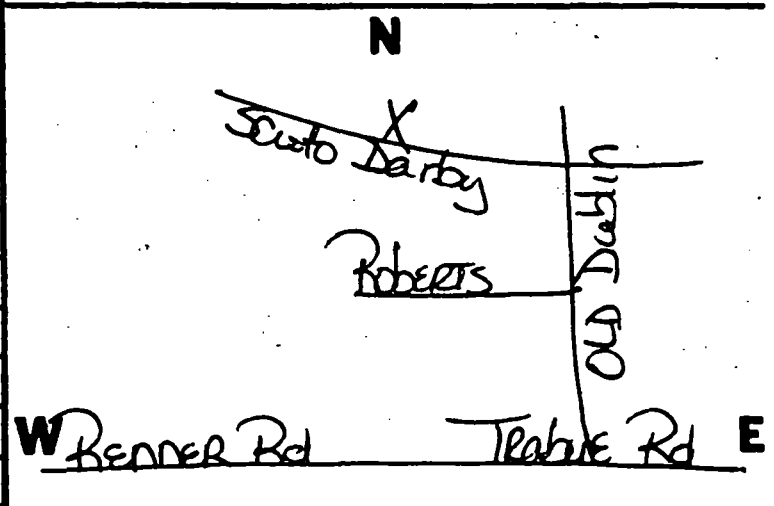
Pump installed by

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Clay	0 ft	8 ft
Sand & Gravel	8	12
Clay	12	30
Sand & Gravel	30	33
Clay	33	45
Clay & Gravel Mixed	45	48
Gravel	48	63
Broken Limestone	63	67
Limestone	67	132

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



* If additional space is needed to complete well log, use next consecutively numbered form.

DNR 7802

DRILLING FIRM R.C. Barry Inc. REGISTRATION NUMBER 288 DATE April 25 1986

ADDRESS Galloway, Ohio 43119 SIGNED Everett Meenach

Completion of this form is required by 1521.05, Ohio Revised Code - file within 30 days after completion.

WHITE ORIGINAL COPY - ODNR, DIVISION OF WATER, FOUNTAIN SQ., COLS., OHIO 43224 / Blue - Customer's Copy / Pink - Driller's Copy / Green - Local Health Dept. Copy

GOLD 5-552

PLEASE USE
OR TYPEW
DO NOT US

DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

No. 111250

12

County Franklin Township Norwich Section of Township or Lot Number

Owner Delmer Sparks Address Hilliard Ohio - R.F.D.

Location of property 4420 Scioto Darby Rd.

CONSTRUCTION DETAILS

Casing diameter 4 1/4 Length of casing 72'

Type of screen None Length of screen

Type of pump

Capacity of pump

Depth of pump setting

PUMPING TEST

Pumping rate G.P.M. Duration of test hrs

Drawdown None ft. Date

Developed capacity

Static level—depth to water 20 ft

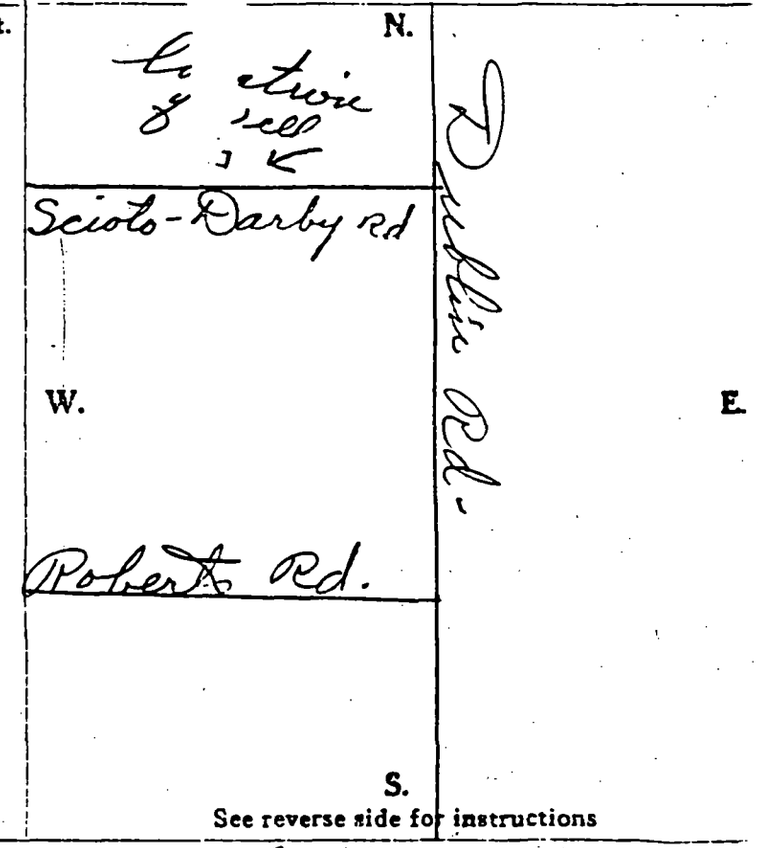
Pump installed by Test Pit By Bailing

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	63 Ft.
sand	65	68
limestone	68	81

SKETCH SHOWING LOCATION

State Highways, St. Intersections, County roads, etc.



X = 1,828,100
Y = 126,400 - N

See reverse side for instructions

Drilling Firm Plummer Bros Date Sept. 28/53

Address Dublin Ohio Signed W. L. Plummer

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

No 111718
14

County Franklin Township Norwich Section of Township or Lot Number Dublin Rd.
Owner Mark Stewart Address 4200 Dublin Rd. Cols - Ohio
Location of property 3091 - Fishinger Rd.

CONSTRUCTION DETAILS

Casing diameter 4 1/4" Length of casing 30'
Type of screen None Length of screen
Type of pump
Capacity of pump
Depth of pump setting 95 ft.

PUMPING TEST

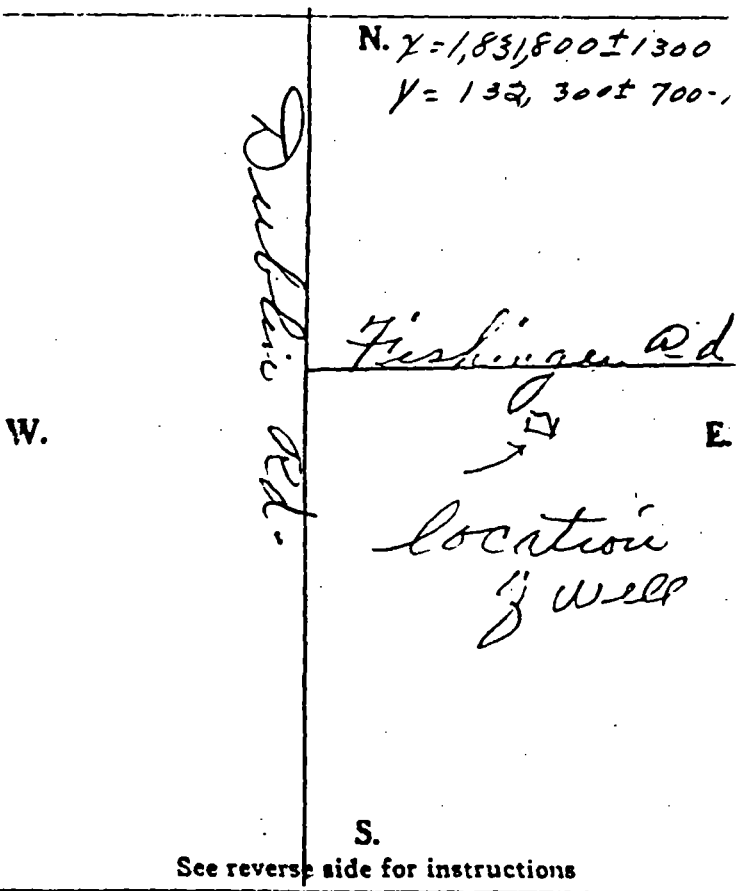
Pumping rate G.P.M. Duration of test h
Drawdown None ft. Date
Developed capacity
Static level—depth to water 80 f
Pump installed by Test. & Boy Bailing

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
clay	0 Feet	15 Ft.
limestone	15	117

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Plummer Bros
Address Dublin Ohio
Date July 3/53
Signed H. L. Plummer

Lot No. 6

WE LOG AND DRILLING RE ORT

15

NO CARBON PAPER NECESSARY– ELF-TRANSCRIBING

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Fountain Square
Columbus, Ohio 43224

634002

COUNTY Franklin TOWNSHIP Norwich SECTION OF TOWNSHIP _____

OWNER Sue Stephenson ADDRESS 3911 Davidson Rd Cols. O.

LOCATION OF PROPERTY Same

CONSTRUCTION DETAILS

ng diameter 5¾" O.D. Length of casing 29'

of screen — Length of screen _____

e of pump _____

city of pump _____

epth of pump setting Set pump at 25'

of completion Aug 1/86

BAILING OR PUMPING TEST
(specify one by circling)

Test rate 12 gpm Duration of test 2 hrs

Drawdown — ft Date _____

Static level (depth to water) 15' ft

Quality (clear, cloudy, taste, odor) _____

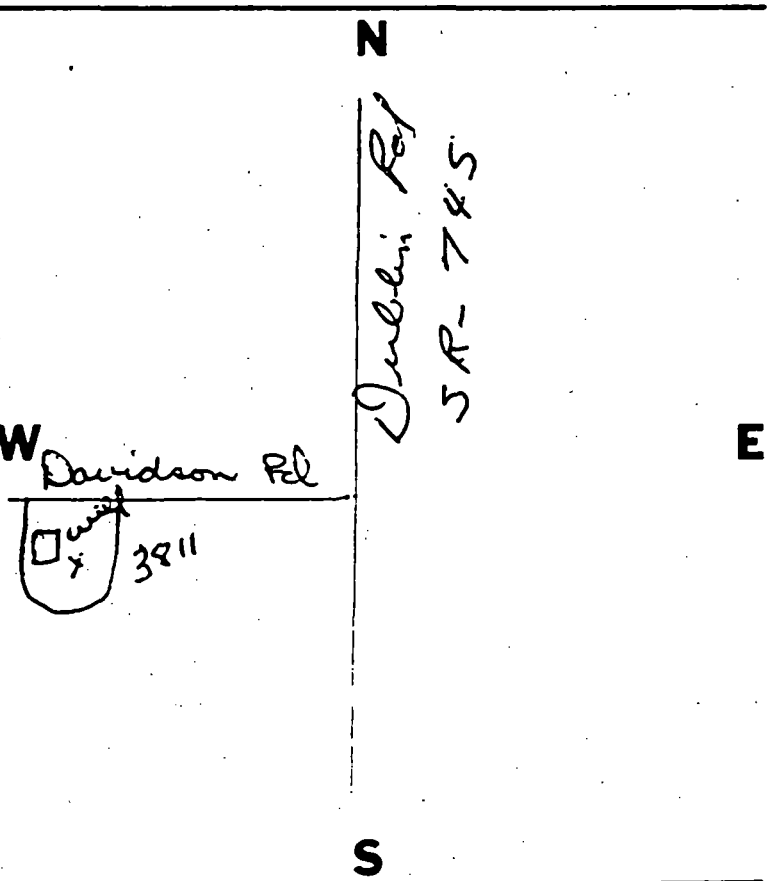
Pump installed by Tested By Test Pump

WELL LOG*

Formations: sandstone, shale, limestone, gravel, clay	From	To
Clay & Gravel	0 ft	28 ft
Limestone	28	32

SKETCH SHOWING LOCATION

Locate in reference to numbered state highways, street intersections, county roads, etc.



DRILLING FIRM Art C. Plummer - Son

ADDRESS Box 753 1160 W. Mohawk Dr. Powell O.

DATE Aug 1/86

SIGNED Robert G. Plummer

*If additional space is needed to complete well log, use next consecutive numbered form.

ORIGINAL COPY - ODNR DIVISION OF WATER FOUNTAIN SQ COLS OHIO 43224 4-5

WELL LOG AND DRILLING REPORT

ORIGINAL

16

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

No. 186169

County Franklin Township NORWICH Section of Township South East

Owner Berlin - Jefferson Rural Address USE WELL FIELD

Location of property 3960 Saturn Dr 200 yds N of Shier-Rings

CONSTRUCTION DETAILS

Casing diameter 4½ Length of casing 82

Type of screen Length of screen

Type of pump SUMEED

Capacity of pump 10 GPM

Depth of pump setting 47 47

Date of completion 4-4-58

BAILING OR PUMPING TEST

Pumping rate 10 G.P.M. Duration of test 1 hrs.

Drawdown 110' ft. Date 4-4-58

Developed capacity

Static level—depth to water 9 ft.

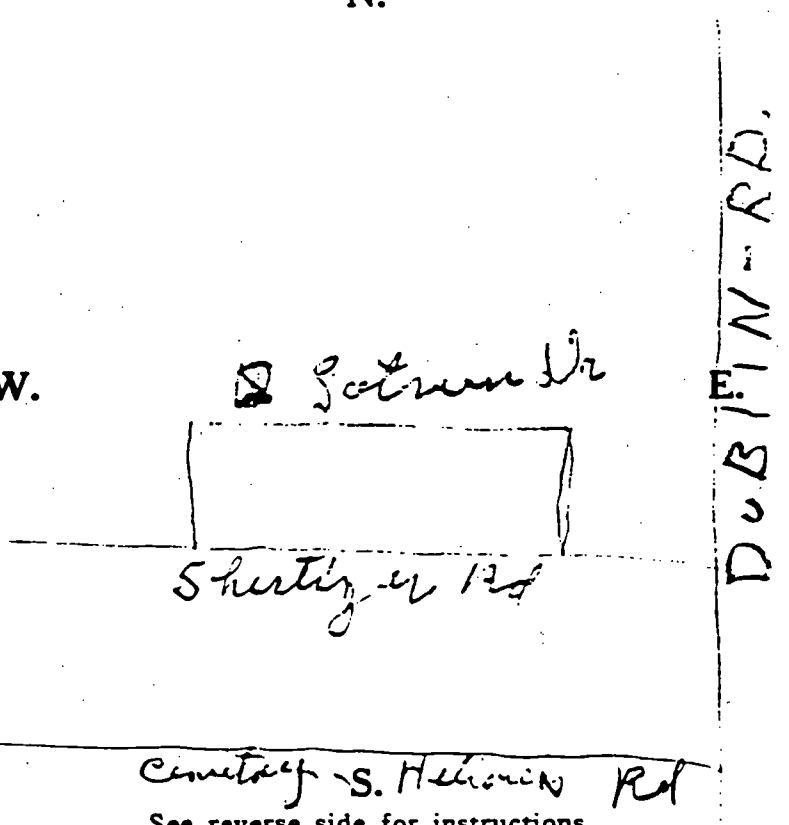
Pump installed by Emmett Albaugh

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	24 Ft.
B-Clay-S	24	48
Sand-F	48	82
Lime Stone	82	89
Water at 85 ft		

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Emmett Albaugh Date 4-4-58

Address 2445 Dublin Rd Signed Emmett Albaugh

DIRL

ORIGINAL

WELL LOG AND DRILLING REPORT

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

CL. 17

No. 208429

County Franklin Township Norwich Section of Township

Owner Ralph Falor Address 1824 Roxbury Columbus - 8 N.O

Location of property Carraige Dr. & Dublin Rd.

CONSTRUCTION DETAILS

Casing diameter 4¼" Length of casing 110'

Type of screen None Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping rate G.P.M. Duration of test hrs.

Drawdown None ft. Date

Developed capacity 1000 Gals Per Hr.

Static level—depth to water 48 ft.

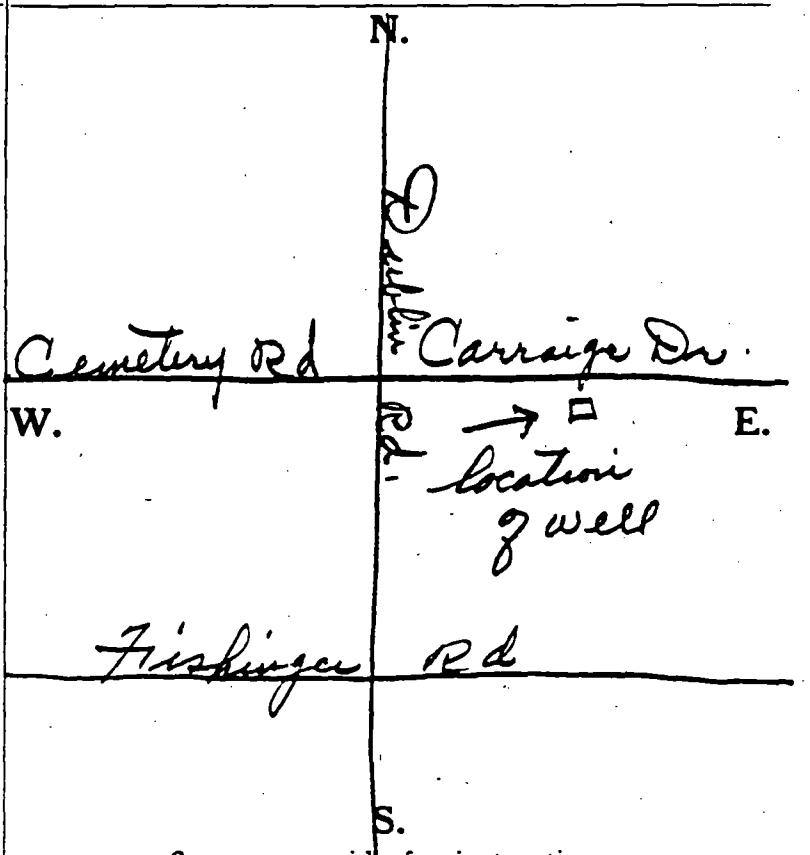
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Gravel	0 Feet	31 Ft.
limestone	31	140

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Plummer Bros Date Apr. 13/59

Address Dublin Ohio Signed W. L. Plummer

WELL LOG AND DRILLING REPORT

ORIGINAL

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1500 Dublin Road
Columbus, Ohio

1622 18

No. 188687

County Franklin Township Norwich Section of Township

Owner Mack Stewart Address 1856 Northwest Blvd. Columbus, Ohio

Location of property 3535 Polley Rd.

CONSTRUCTION DETAILS

Casing diameter 4"/4" Length of casing 69'

Type of screen None Length of screen

Type of pump

Capacity of pump

Depth of pump setting

Date of completion

BAILING OR PUMPING TEST

Pumping rate G.P.M. Duration of test hrs.

Drawdown None ft. Date

Developed capacity

Static level—depth to water 45 ft.

Pump installed by

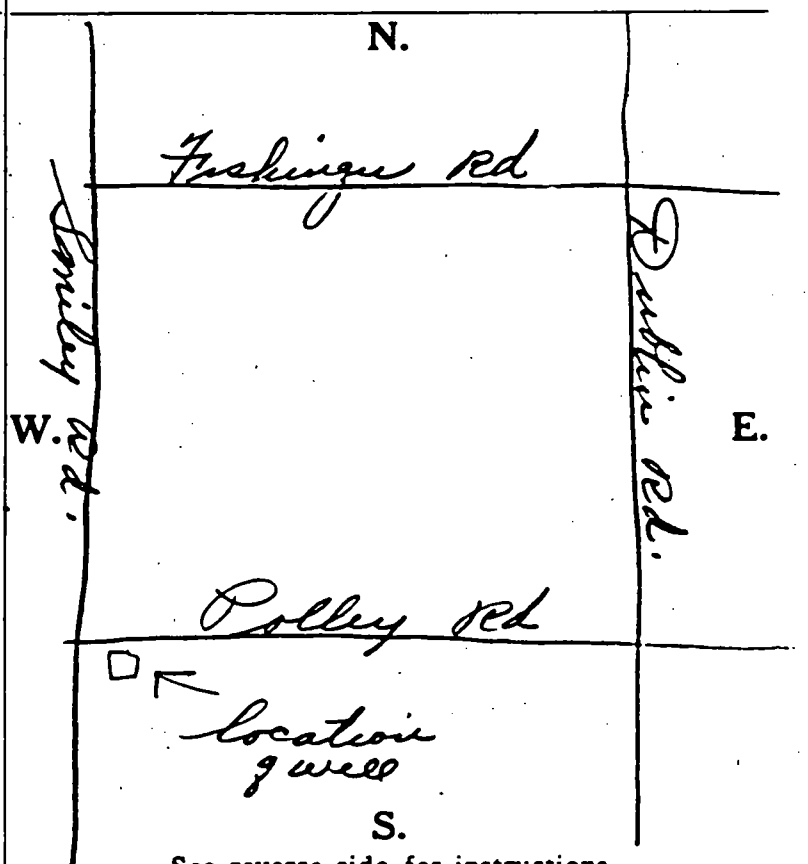
Tested By Bailing

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	6 Ft.
limestone	6	120

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Plummer Bros

Address Dublin Ohio

Date Apr. 22/57

Signed N. L. Plummer

H410

WELL LOG AND DRILLING REPORT

ORIGINAL

16 19

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Columbus, Ohio

No 141707

County Franklin Township Norwich Section of Township or Lot Number 4200 - Dublin Rd.

Owner Mark Stewart Address Columbus, Ohio

Location of property 3219 - Polley Rd -

CONSTRUCTION DETAILS

Casing diameter 4 1/4 Length of casing 66'

Type of screen None Length of screen

Type of pump

Capacity of pump

Depth of pump setting 85 ft.

PUMPING TEST

Pumping rate G.P.M. Duration of test hrs.

Drawdown None ft. Date

Developed capacity

Static level—depth to water 68 ft.

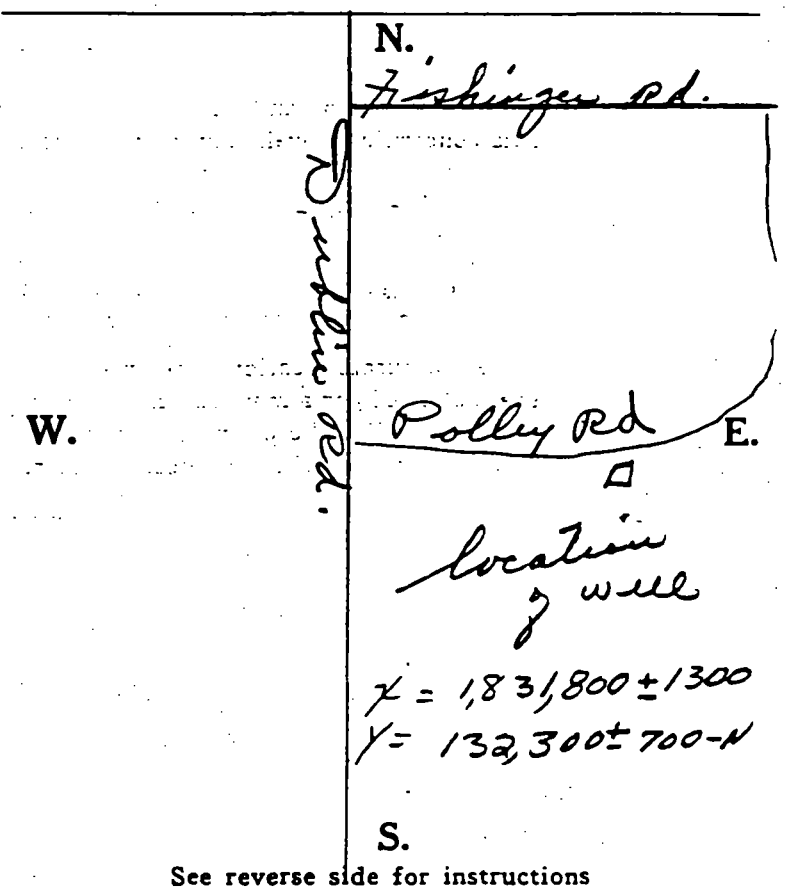
Pump installed by

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	12 Ft.
limestone	12	114

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



location of well

X = 1,831,800 ± 1300

Y = 132,300 ± 700-N

See reverse side for instructions

Drilling Firm Plummer Bros

Address Dublin Ohio

Date Oct. 26/54

Signed H. L. Plummer

H427

WELL LOG AND DRILLING REPORT

20

PLEASE USE PENCIL OR TYPEWRITER DO NOT USE INK.

State of Ohio
DEPARTMENT OF NATURAL RESOURCES
Division of Water
1562 W. First Avenue
Columbus 12, Ohio

No 316341

County Franklin Township Norwich Section of Township

Owner Robert Pearson Address 633 Scioto-Darby Rd. Hilliard Ohio

Location of property 3455 Smiley Rd.

CONSTRUCTION DETAILS

Casing diameter 4 1/4" Length of casing 31'

Type of screen None Length of screen

Type of pump 1/2 H.P. Submersible

Capacity of pump 600 gal. Per hr.

Depth of pump setting 84 ft.

Date of completion

BAILING OR PUMPING TEST

Pumping Rate 15 G.P.M. Duration of test 2 hrs.

Drawdown None ft. Date

Static level-depth to water 65 ft.

Quality (clear, cloudy, taste, odor)

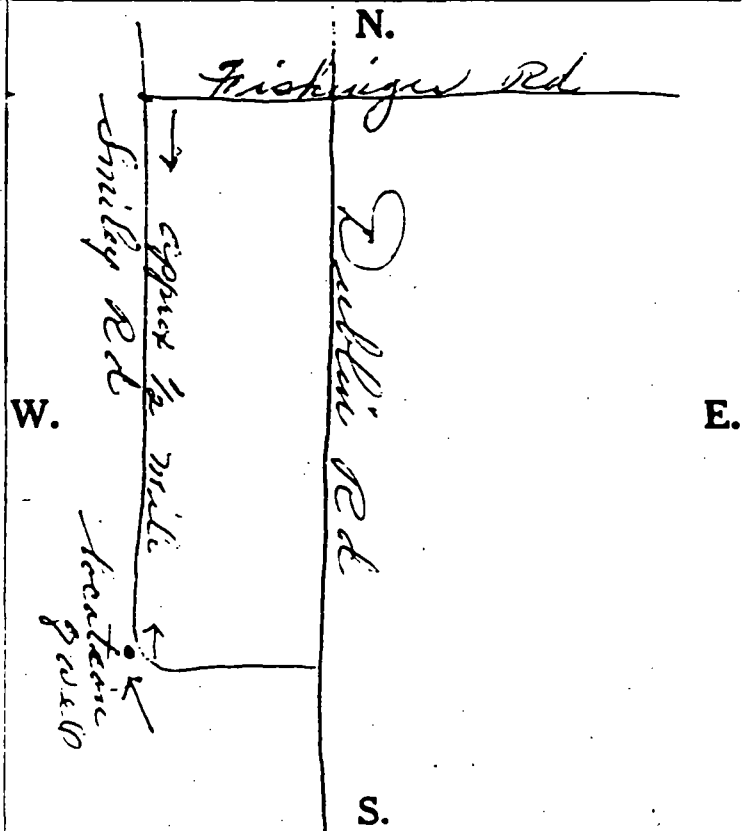
Pump installed by Leo. Plummer

WELL LOG

Formations Sandstone, shale, limestone, gravel and clay	From	To
Clay	0 Feet	8 Ft.
Limestone	8	113

SKETCH SHOWING LOCATION

Locate in reference to numbered State Highways, St. Intersections, County roads, etc.



See reverse side for instructions

Drilling Firm Plummer Bros

Address 530 N. Riverview St. Dublin Ohio

Date Nov 28/64

Signed Harold L. Plummer

449

Photograph No. 1
Orientation: West
Description: Area of exposed waste showing rusted drums

Location: Exposed waste area
Date: July 28, 1994

Photograph No. 2
Orientation: North
Description: Exposed waste area showing bulk waste material

Location: Exposed waste area
Date: July 28, 1994

Photograph No. 3 Location: Exposed waste area
Orientation: South Date: July 28, 1994
Description: Exposed waste area showing rusted drum with solid waste inside

Photograph No. 4 Location: Exposed waste area
Orientation: East Date: July 28, 1994
Description: Tanks full of water and leaves in exposed waste area

Photograph No. 5 Location: South of site
Orientation: North Date: July 28, 1994
Description: Photograph of landfill area showing well established vegetation

Photograph No. 6
Orientation: Northwest
Description: Drainage pipe near the Scioto River

Location: Bank of Scioto River
Date: July 28, 1994

Photograph No. 7 Location: Bank of Scioto River
Orientation: North Date: July 28, 1994
Description: Water discharged to the Scioto River via drain pipe

Photograph No. 8 Location: Maintenance building
Orientation: West Date: July 28, 1994
Description: Gas monitoring well GSW-1 near maintenance building

consists primarily of light blue-green plastic or resin. Other small pieces of plastic and synthetic fabric are also scattered about the area.

During the 1990 E&E SSI sampling event, it was noted that site access was not controlled. Numerous bicycle and motorcycle trails indicated that trespassers frequently used the area. To counter the trespassing, which American acknowledged has always been a concern, American recently switched security firms and took an aggressive stance on prosecuting repeat offenders. Security personnel now patrol the property, especially the southern portion around the MCQD site, from 3:00 p.m. Friday to 11:00 p.m. Sunday.

3.0 SITE OPERATIONS AND HISTORY

The MCQD site has one source associated with it: a landfill that was in operation from about 1950 to 1961. The property was owned by Kaufman Investment Company (Kaufman) of Columbus, Ohio (Kaufman 1986). The landfill was used by Columbus Coated Fabrics (CCF) of Columbus, Ohio. Notification of Hazardous Waste Site forms submitted by both Kaufman and CCF for the MCQD landfill list the following waste type accepted at the landfill: organics, inorganics, heavy metals, paints, and pigments (EPA 1981; E&E 1991). Waste was deposited in the landfill in drums or as bulk material. The MCQD landfill is located in a "mudseam" within the surrounding bedrock. A mudseam is a pre-glacial drainage erosion feature later filled with typically fine-grained glacial debris. According to a former worker, the landfill probably extends to a depth of about 60 feet below ground surface (bgs) (E&E 1991).

During Kaufman's ownership of the property, the land was also leased to Medusa Aggregates for quarrying. The agreement with Kaufman that allowed CCF to use the landfill required CCF to accept liability for the MCQD site. Borden, Inc. (Borden), of Columbus, Ohio, apparently assumed liability for the site when it bought CCF in 1961. Sometime before Kaufman sold the site, American began leasing it and continued quarrying operations. SRC purchased the site from Kaufman on December 26, 1985. The site is currently owned by SRC and leased to American.

TABLE 1
FIT SOIL/SEDIMENT SAMPLING RESULTS

Sample No.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11
Date Collected	6/12/90	6/12/90	6/12/90	6/12/90	6/12/90	6/12/90	6/12/90	6/12/90	6/12/90	6/12/90	6/12/90
Time Collected	1250	1320	1330	1500	1510	1450	1530	1545	1600	1600	1630
CLP[a] Organic Traffic Report Number	EKN65	EKN66	EKN67	EKN68	EKN69	EKN70	EKN71	EKN72	EKN73	EKN74	EKN75
CLP Inorganic Traffic Report Number	MEKN50	MEKN51	MEKN52	MEKN53	MEKN54	MEKN55	MEKN56	MEKN57	MEKN59	MEKN59	MEKN60
Compounds (values in µg/kg)[b]											
Volatile Organic Compounds											
Methylene chloride	65J	60J	70J	74J	67J	14J	5IJ	49J	21J	22J	47J
Carbon disulfide	–[c]	–	1.01J	–	2J	–	–	–	–	–	–
1,2-Dichloroethane	2J	–	–	–	–	–	–	–	–	–	–
1,1,1-Trichloroethane	2J	–	1J	2J	2J	–	–	–	3J	2J	–
Trichloroethene	4J	–	–	–	–	–	–	–	–	–	–
1,1,2-Trichloroethane	1J	–	–	–	–	–	–	–	–	–	–
Benzene	2J	–	–	–	–	–	–	–	–	–	–
Tetrachloroethene	16J	–	–	–	2J	–	–	–	3J	–	–
Toluene	1J	2J	3J	1J	2J	–	2J	–	2J	–	–
1,1,2,2-tetrachloroethane	17J	–	–	–	–	–	–	–	–	–	–
Chlorobenzene	1J	–	–	–	–	–	–	–	–	–	–
Semivolatile Organic Compounds											
Phenanthrene	–	–	–	–	–	260J	110J	510J	–	–	–
Anthracene	–	–	–	–	–	100J	–	180J	–	–	–
Fluoranthene	–	190J	–	–	–	420J	–	490J	–	–	–
Pyrene	–	190J	–	–	–	920	140J	1,300	–	–	–
Benzo[a]anthracene	–	93J	–	–	–	680	–	550J	–	–	–
Chrysene	–	140J	–	–	–	920	100J	560J	–	–	–
Bis(2-ethylhexyl)phthalate	–	–	–	–	–	–	51,000	–	93J	–	–
Di-n-octylphthalate	–	–	–	–	–	–	12,000	–	–	–	–
Benzo[b]fluoranthene	–	–	–	–	–	2,000	–	3,600	–	–	–
Benzo[k]fluoranthene	–	–	–	–	–	2,300	–	–	–	–	–

TABLE 1 (Continued)
FIT SOIL/SEDIMENT SAMPLING RESULTS

Sample No.	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11
Nickel	29.9	31.6	9.7	23.8	18.6	14.2	26.8	8.7B	19.7	12.6	34.1
Potassium	943BJ	2,880	342BJ	1,370B	319BJ	243BJ	1,610	258BJ	521BJ	490BJ	2,160
Selenium	--	--	--	--	--	--	0.73B	--	--	--	0.49B
Sodium	170B	88B	168B	212B	193B	212B	170B	193B	178B	225B	126B
Thallium	0.52B	--	--	--	--	--	0.73B	--	-	--	--
Vanadium	11.4B	36.7	1.5B	18.5	2.4B	1.8B	21.9	2.7B	3B	2B	31.6
Zinc	77.4	89.7	25.3	64.8	63.7	37.1	4,300	33.7	58.6	39.1	89.6
Cyanide	1.8	--	--	--	--	--	--	--	--	--	--

Notes:

[a] CLP = Contract Laboratory Program

[b] µg/kg = Microgram per kilogram

[c] -- = Not detected

[d] Tentatively identified compound (TIC) Chemical Abstracts Service (CAS) numbers included in parentheses if available.

[e] mg/kg = milligrams per kilogram

COMPOUND QUALIFIERS	DEFINITION
J	Indicates an estimated value
ANALYTE QUALIFIERS	**DEFINITION**
E	Estimated or not reported value due to interference
N	Spike recoveries outside quality control (QC) protocols, indicating possible matrix problem; data may be biased high or low
+	Correlation coefficient for standard additions less than 0.995
B	Value is real, but is above instrument detection level and below contract-required detection limit (CRDL)
J	Value is above CRDL and is estimated value because of a QC protocol

Source: Modified from E&E 1991

clayey sand (PRC 1994c). The variability in the thickness of unconsolidated material is probably due in part to the irregular erosional surface of limestone bedrock underlying the unconsolidated material. The Devonian-aged Columbus Limestone bedrock unit that underlies the site is the target for quarry operations in the site's vicinity (ODNR 1981). This unit is about 170 feet thick and overlies the Silurian- and Devonian-aged Monroe Limestone. Currently, the deepest portion of the nearby active quarry is 150 feet bgs. According to the quarry superintendent, 150 feet bgs is the maximum depth to which the quarry will be excavated (PRC 1994d).

Two separate aquifers exist in the MCQD site area. The first is within the unconsolidated glacial material, and the second is within the Columbus Limestone. Groundwater in the unconsolidated material is encountered at about 8 feet bgs, as measured in GSW-1. This aquifer is not used as a groundwater source. The second aquifer at the site is within the Columbus Limestone and is used as a groundwater source. According to well logs, static water levels in the Columbus Limestone vary from 15 to 83 feet bgs, depending on the distance from the Scioto River, with groundwater being shallower near the river. Computing groundwater elevations relative to mean sea level from the attached well logs show groundwater within the Columbus Limestone to be flowing primarily to the east and probably discharging to the Scioto River.

Aquifer interconnection appears to depend on distance from the Scioto River. As the land surface slopes to the Scioto River valley, the upper, unconsolidated aquifer slopes with the land surface until it intersects the less sloping Columbus Limestone aquifer near the Scioto River. Although well logs indicate significant deposits of clay above the Columbus Limestone aquifer that may act as a confining layer, the inherent variability of unconsolidated glacial deposits makes it likely that communication between the two aquifers occurs at some distance from the Scioto River.

No analytical evidence exists to demonstrate a release of hazardous substances to groundwater. However, because groundwater at a depth of 8 feet bgs is probably in contact with landfill material which extends to a depth of about 60 feet bgs, hazardous substances may have been released to groundwater.

About 2,900 people are potentially exposed to contamination from the MCQD site through the groundwater migration pathway (Frost Associates 1994). This number is relatively low for a major

these surface water bodies (Envirotech 1994). One other surface water body may exist near the MCQD site. A natural depression exists south of the site. During the 1990 SSI visit, this depression contained water, and samples were collected from its sediment. This surface water body was not apparent during the 1994 site visit, and, according to a site representative, has not existed for several years (PRC 1994d).

An additional migration route for the surface water pathway is the groundwater to surface water route. As discussed above in Section 5.1, groundwater flow near the site appears to be east towards the Scioto River. Therefore, it is likely that groundwater discharges to the Scioto River. This scenario is the most common type of groundwater-surface water interface. Because groundwater at the site is present at only 8 feet bgs and is apparently in contact with waste material in the landfill, groundwater migrating from the site and discharging to the Scioto River is a likely contaminant migration pathway.

5.2.2 Surface Water Releases

During PRC's 1994 site reconnaissance, a drainage pipe near the site was observed discharging into the Scioto River (see Photographs No. 6 and 7). The approximate location of this drainage pipe is about 1,000 feet southeast of the site and is shown in Figure 2. The material discharging from the pipe appeared to be water with a high iron content. The probable high iron content was indicated by the orange stains on nearby rocks. No oily sheen was observed on the water discharging from the pipe. However, a slight film was noticed on the Scioto River near where the water entered the river.

It is not known where the water discharging from the pipe originates. A small depression exists directly inland from the discharge point, and the pipe may be an outlet for a system that drains the depression. Nevertheless, because of the close proximity of the discharge point to the MCQD site, it is possible that hazardous substances associated with the MCQD site may be released to the Scioto River via this pipe.

of the site. Targets of potential exposure to contaminated surface soils are limited to 4,807 people residing within 1 mile of the site (Frost Associates 1994). However, a large portion of this population resides in the City of Upper Arlington, which is separated from the site by the Scioto River.

5.4 AIR MIGRATION PATHWAY

During the 1990 SSI, hand-held air monitoring instruments did not detect any releases to air. Although the MCQD landfill is generating at least some explosive gas, this gas has so far been detected only in subsurface soils. In addition, the concentration of explosive gas detected has declined to zero over the past year. Because the site is heavily vegetated, a low potential for releases of contamination through airborne particulates is present. Therefore, no releases to off-site areas through the air migration pathway are suspected. The 133,960 people living within 4 miles of the site comprise the population potentially exposed to air contamination from the site (Frost Associates 1994).

6.0 SUMMARY

The primary migration pathway affecting the potential for contaminant migration from the MCQD site is the surface water migration pathway. It is possible that hazardous substances associated with the MCQD site could be released to the Scioto River via a pipe discharging water collected from an unknown location. The other migration pathways do not contribute significantly to the potential for contaminant migration from the MCQD site.

REFERENCES

City of Columbus, Division of Water (CDW). 1994. *Public Information Booklet*. Received by PRC Environmental Management, Inc. (PRC), in August. Undated.

Ecology and Environment, Inc. (E&E). 1991. Screening Site Inspection Report for Marble Cliff Quarries Dump (MCQD) Site. March 18.

Envirotech. 1994. "A Storm Water Pollution Prevention Plan for the American Aggregates Corporation's Marble Cliff Plant #224 in the City of Columbus, Franklin County, Ohio." Received by PRC in August 1994. March 29.

Federal Emergency Management Agency. 1987. Flood Insurance Rate Map for Columbus, Ohio. Panel 35 of 105.

Franklin County Auditors. 1994. Orthographic/Topographic Map of Marble Cliff Quarries Area. Received by PRC in August 1994. Date Illegible.

Frost Associates. 1994. Four-Mile Radius Census Data for the MCQD Site. July 20.

Kaufman Investment Company (Kaufman). 1986. Letter Regarding Preliminary Assessment of MCQD Site. From John S. Kaufman to Chuck M. Taylor, Ohio Environmental Protection Agency (OEPA). June 6.

Ohio Department of Natural Resources (ODNR). 1981. Geologic Map of Ohio.

ODNR. 1987. "Creel Survey Summary and Estimates of Sport Fish Harvest for 14 Ohio Water Areas in 1986." Division of Wildlife. May.

Ohio Environmental Protection Agency (OEPA). 1989. Letter Regarding 1988 SSI Incorrectly Performed at Earthco Site Instead of MCQD Site. From Deborah J. Strayton to William Messenger, U.S. Environmental Protection Agency (EPA). March 30.

PRC Environmental Management, Inc. (PRC). 1994a. Record of Telephone Conversation Regarding Flow Rates of the Scioto River. Between Jeff Nee and Dave Cashell, ODNR. July 13.

PRC. 1994b. Record of Telephone Conversation Regarding CDW. Between Jeff Nee and Jackie England, CDW. July 27.

PRC. 1994c. Record of Telephone Conversation Regarding Explosive Gas Monitoring at MCQD Site. Between John Grabs and Steven Gross, Earth Tech. August 9.

PRC. 1994d. Logbook Notes from July 28, 1994, Site Reconnaissance.

U.S. Department of the Interior. 1993. National Wetlands Inventory Map of Southwest Columbus, Ohio. December 8.

APPENDIX

SITE RECONNAISSANCE PHOTOGRAPHS

MARBLE CLIFF QUARRIES DUMP
COLUMBUS, OHIO

(Five Sheets)

E 1,802,500
E 1,803,000
E 1,803,500
E 1,804,000
E 1,804,500
N 731,500
N 731,000
N 730,500
N

ACTIVE QUARRY

SCIOTO RIVER — DIRECTION OF FLOW

APPROXIMATE AREA OF EXPOSED WASTE

APPROXIMATE AREA OF LANDFILL

DRAINAGE PIPE AND OBSERVED RELEASE

MAINTENANCE BUILDING

GSW-1

ABANDONED RAILROAD BRIDGE

LEGEND

◆ GAS MONITORING WELL

SOURCE: MODIFIED FROM FRANKLIN COUNTY AUDITOR 1994

75' 0 75' 150'
SCALE: 1" = 150'
CONTOUR INTERVAL = 2 FEET

MARBLE CLIFF QUARRIES DUMP
COLUMBUS, OHIO

FIGURE 3
SITE LAYOUT

PRC ENVIRONMENTAL MANAGEMENT, INC.

MARCLIF1.DWG -- 09/13/94 -- RAO -- 030-003526D